REMARKS

The Applicants wish to thank the Examiner for his review of the present application. Applicants have withdrawn claim 113. Applicants have amended claim 12 to incorporate the limitations from dependent claim 100, and cancelled claim 100. Applicants have also amended claim 13. Additionally, Applicants have amended claims 101, 102, and 104 to correct dependency and claims 124-126 to correct the order of the claims. Claims 12-13, 89-99, 101-105, and 116-130 are pending in the application.

Applicants would also like to thank the Examiner for the telephone interview of June 17, 2008. During the interview, Applicants' attorney informed the Examiner that claims 89 and 97 were not addressed in the Office Action. Applicants' attorney and the Examiner agreed that Applicants' attorney would address these claims in this response.

Claim Objections

The office action objects to claim 113 because it depends on a claim that has been withdrawn. As mentioned above, Applicants have withdrawn this claim. Applicants believe that this rejection is now moot.

35 U.S.C. §112

The office action rejects claims 124 and 125 under the second paragraph of 35 U.S.C. 112. In particular, the office action states that there is insufficient antecedent basis for the limitation "the converted image." Applicants would like to note that the order of claims 124-126 was incorrect (e.g., claim 126 should have been before claims 124 and 125). Accordingly, Applicants have amended claims 124-126. In particular, Applicants have amended claim 124 to recite the limitations of claim 126. Additionally, Applicants have amended claim 125 to recite the limitations of claim 124 and amended claim 126 to recite the limitation of claim 125. Accordingly, the claims now have proper antecedent basis for "the converted image" and Applicants believe that this rejection is now moot.

35 U.S.C. §102

The office action rejects claims 12, 90-91, 93-96, 98-103, 118-119, and 126-130 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 6,442,287 (Jiang et al., hereinafter "Jiang"). The Applicants would like to note that claims 89 and 97 were not addressed in the Office Action. Per the telephone interview with Examiner Ramirez, Applicants will address claims 89 and 97 with this rejection.

Amended claim 12 describes, in relevant part, a method for analyzing at least one of bone mineral density, bone structure, and surrounding tissue. The method includes, obtaining an image of a subject, locating a region of interest on the image, converting the region of interest to a 2D trabecular pattern, and deriving quantitative data from the pattern. Deriving includes extracting bone parameters from a group consisting of a variety of parameters.

Jiang fails to teach such a method. In particular, Jiang's method of analysis of image data stores an image (e.g., digitized image data) in memory, performs a trend correction, and then measures and/or analyzes aspects of the image (e.g., performs bone mineral density measurements and/or texture analysis)(col. 6, lines 4-65). Nowhere does Jiang teach or suggest converting a region of interest to a 2D trabecular pattern and then deriving quantitative data from the pattern. Rather, Jiang estimates the fractal or Minkowski dimension by evaluating the gray scale level of each pixel within the original image (or the selected region of interest). (Col. 18, lines 13-30). Jiang then calculates a "surface area" and/or the fractal/Minkowski dimension from the grey levels within the image/ROI. In other words, Jiang performs a global measurement directly on the original image and/or image data - Jiang does not separate out the structures (e.g., into 2D patterns) within the image prior to performing the analysis/evaluation. Accordingly, Jiang does not convert a region of interest on the image into a 2D trabecular pattern. Therefore, amended claim 12 is patentable over Jiang. Moreover, claims 89-91, 93-97, 98-103, 118-119, and 126-130, which depend from claim 12 are allowable over Jiang for at least the same reasons.

35 U.S.C. §103

The office action rejects claims 103, 118, and 119 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,108,635 (Herren et al., hereinafter "Herren") in view of Jiang.

As dependent claims of claim 12, claims 103, 118, and 119 include of the limitations of independent claim 12. Therefore, claims 103, 118, and 119 are allowable over Jiang for at least the reasons dicussed above with regard to claim 12.

Additionally, Herren also fails to teach the deficiencies of Jiang. In particular, nowhere does Herren teach or suggest converting a region of interest on an image to a 2D pattern and then deriving quantitative data from the pattern. Rather, Herren discloses an integrated disease information system having several modules that allow a user to project disease progression (see abstract). In particular, Herren's system uses data inputted by a user to project the disease progression. However, Herren fails to teach or suggest how the inputted data is obtained. Therefore, Herren fails to teach or suggest converting a region of interest on the image to a 2D pattern and deriving quantitative data from the pattern, as required by claims 103, 118, and 119. Accordingly, Jiang and Herren fail to teach or suggest, alone or in combination, all of the limitations of claims 103, 108, and 119. Accordingly, claims 103, 118, and 119 are allowable over the combination of Jiang and Herren.

The office action rejects claims 116-117 and 120-123 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 6,306,822 (Kumagai et al., hereinafter "Kumagai") in view of Jiang.

As dependent claims of claim 12, claims 116-117 and 120-123 include of the limitations of independent claim 12. Therefore, claims 116-117 and 120-123 are allowable over Jiang for at least the reasons discussed above with regard to claim 12.

Additionally, Kumagai also fails to teach the deficiencies of Jiang. Rather, Kumagai teaches a phosphopeptide and a method of treating bone disease using the phosphopeptide. Kumagai fails to teach or suggest how bone mineral density or bone structure are analyzed/measured. Therefore, Kumagai fails to teach or suggest, among other things, converting a region of interest on an image to a 2D trabecular pattern and

deriving quantitative data from the pattern. Accordingly, Jiang and Kumagai fail to teach or suggest, alone or in combination, all of the limitations of claims 116-117 and 120-123. Accordingly, claims 116-117 and 120-123 are allowable over the combination of Jiang and Kumagai.

The office action rejects claims 13, 92, 104-105, and 113 under 35 U.S.C. 103(a) as being unpatentable over Jiang in view of what would have been obvious to one of ordinary skill in the art.

As dependent claims of claim 12, claims 13, 92, 104-105, and 113 include of the limitations of independent claim 12. Therefore, claims 13, 92, 104-105, and 113 are allowable over Jiang for at least the reasons discussed above with regard to claim 12.

The Office Action suggests that the total bone pattern factor (claim 13), and converting the 2D pattern into a 4D pattern (claims 104, 105, and 113) would have been an obvious design choice for one of ordinary skill in the art to have expected Jiang's method and the current invention to perform equally well. Additionally, the Office Action also suggests that it would have been prima facie obvious to one of ordinary skill to have modified the method disclosed by Jiang to obtain the invention as specified in claims 13, 104-105, and 113 because such a modification would have been considered a mere design consideration. Furthermore, with respect to claim 92, the Office Action suggests that it would have been obvious to one of ordinary skill in the art to have modified the method disclosed by Jiang by using the image of a horse since it is well known that osteoporosis can occur in humans and animals. However, even if the above suggestions were true, Jiang still fails to teach of all of the limitations of claims 13, 92, 104-105, and 113. In particular, as discussed above, Jiang fails to teach or suggest converting a region of interest on the image to a 2D trabecular pattern and deriving quantitative data from the pattern. Accordingly, Jiang and fails to teach or suggest all of the limitations of claims 13, 92, 104-105, and 113. Accordingly, claims 13, 92, 104-105, and 113 are allowable over Jiang.

It is believed that the application is now in order for allowance and Applicants respectfully request that a notice of allowance be issued. Applicants believe that a three month extension of time is required and request that the associated fee be charge to

deposit account number 19-4972. Applicants also request that any additional fees required by this paper be charged to or any overpayments be credited to deposit account number 19-4972. Applicant also request that the examiner contact applicant's attorney, Jonathan Lovely, if it will assist in processing this application through issuance.

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Respectfully submitted,

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